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and/or toxic materials, such as in particular reactor wastes or reactor components to be disposed of.

6. A method, in particular according to one of Claims 1 to 5, characterized in that radioactive reactor graphite is first ground wet to a grain size < 60 mm, preferably < 30 mm, and then mixed together with at least a hydraulic binder such as cement in order to produce a mortar formulation or casting compound formulation.

7. A method, in particular according to one of Claims 1 to 6, characterized in that the content of fines $< 200 \mu\text{m}$ in the material to be disposed of, such as in particular the radioactive reactor graphite, is less than 20% relative to the weight of the material to be disposed of, preferably less than 15%, and still more preferably less than 10% by weight.

8. A method, in particular according to one of Claims 5 to 7, characterized in that formulation additives are added in order to increase the flowability, the degree of filling, the corrosion resistance, the aging resistance, the leaching resistance, as well as for surface wettability.

9. A method, in particular according to one of Claims 5 to 8, characterized in that the degree of filling of the formulation with ground and/or broken radioactive graphite is higher than the degree of filling when conventional mineral fillers are used, such as in particular aggregates such as sand, gravel and/or additives such as clinoptilolite, Micropoz, limestone flour, quartz flour and others.

10. A method, in particular according to one of Claims 1 to 9, characterized in that sulfate-resistant and/or corrosion-resistant cement is used as binder.

11. A method, in particular according to one of Claims 5 to 10, characterized in that a wetting agent is added to the material to be disposed of or to the radioactive graphite while it is still being subjected to size reduction or grinding.

12. A casting compound (11) containing as binder formulation at least a hydraulic binder such as for example cement, and as filler at least ground and/or broken radioactive and/or toxic material such as in particular radioactive reactor graphite, the content of fines < 250 μm in the filler, such as in particular the radioactive reactor graphite, being less than 30% by weight relative to the weight of the filler quantity, preferably less than 15% by weight, and still more preferably less than 10% by weight.

13. A casting obtainable through the use of a casting compound according to Claim 12, containing radioactive materials to be disposed of, such as in particular reactor wastes (3, 5, 7, 9), and, as casting mortar matrix (11), a grout formulation or mortar formulation containing at least a hydraulic binder such as cement as well as ground and/or broken radioactive graphite such as in particular reactor graphite.

14. The casting of Claim 13 molded or cast in a vessel such as in particular a container (1, 21).

15. A casting compound containing radioactive material to be disposed of as well as a binder/aggregate mix for the production of casting compounds, mortars, casting resins and the like, obtainable by a method in particular according to one of Claims 1 to 11.